

# Work Order ID 51915

Wednesday, September 09, 2009 11:12:07 A



Page 1

Item ID: D350-636-012

Accept



Setup Start



Revision ID: F

Stop



Item Name: Skidtube RH

Start Date: 9/10/2009 Start Qty: 1.00



Cust Item ID:

Required Date: 9/18/2009 Req'd Qty: 1.00



Customer:

Reference:

Approvals:

Process Plan:

*BL MW*

Date: *09-9-09*

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run Start



Stop



Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Draw  
Number

Draw  
Rev.

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

Draw Nbr

Revision Nbr

D2750

Rev F

100

0.00



DOCUMENT CONTROL

DC

0.00

Memo

Document Control

Photocopy blue file and type labels per PPP D350-636-012 CHG 004

*Sc 09/10/09*

*HJ for BG 09/10/09*

*51915*

# Work Order ID 51915

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Item ID: D350-636-012

Accept

Revision ID: F

Item Name: Skidtube RH

Start Date: 9/10/2009 Start Qty: 1.00

Required Date: 9/18/2009 Req'd Qty: 1.00

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start  
Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
110	Skidtubes	0.00							
Skidtubes	<b>Memo</b>	0.00							
Skidtubes	1- Mark cut line on aft end of D2600-3-Bent using Jig DT 8150. Cut to length as per Dwg D2750. Deburr end								
	2-Drill pilot holes as per Dwg D2750 sheet 5 (D2750-2 details).Drill using drill Jig DT8150 & DT8863 .								
	3- Mark fwd end for cutting using Drill Jig DT 8150 & DT8863 and cut as per dwg D2750.								
	4-Drill pilot holes for blade fitting bolts using DT8983. Open to 0.500"								
	5- locate DT8329 off of blade fitting bolt holes and drill pilot holes blade fitting.								
	6-Open up holes for Detail K to 0.375" (4 holes per side) blade fitting location holes to 0.500" (total of 4 holes per side) as per dwg D2750. Open holes for ground handling and detail L to 0.500" (8 holes per side)								
	7-Drill pilot holes for wearplates as per Dwg D2750 using DT8108. Open to 0.297".								
	8-Open up holes of Detail J to 0.297" (total of 2 holes per side)								
	9-Weld D2744 Cap as per Dwg D2750 and QSI 004.Fill grooves in bend left from bending as per QSI 004 A/R <input type="checkbox"/> <input type="checkbox"/> Aluminum Rod <input type="checkbox"/> <input type="checkbox"/>								
	10-Grind welds flush as per Dwg D2750								

BE 09/09/15  
- ARM 9-9-16  
BE 09/09/15  
- ARM 9-9-15

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Run Start



Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	----------------	--------------	--------------	---------------	---------------	------------------	----------------

11- scribe batch #.

120



QC

Quality Control

QC10- Inspect visual per QSI004- ground welds

0.00

27 8/20/15

Memo

0.00

(XU)

P

130



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

27 8/21/15

Memo

0.00

(XU)

P

140



HandFinish

Hand Finishing

Chemical Conversion Coat per QSI005 4.1

0.00

Memo

0.00

M

A

A

16

(1)

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Cust Item ID:

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Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run HoursDraw  
NumberDraw  
Rev.Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

150

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

Q.m 09 - 09 - 16 @

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QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start  
Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	----------------	--------------	--------------	---------------	---------------	------------------	----------------

160



Skidtubes

Skidtubes

Skidtubes

Memo

0.00

1-Open up holes of Detail L and ground handling to 0.625" (total of 8 holes per side) as per dwg D2750.

2-Open up holes of Detail K to 0.750" (total of 4 holes per side) as per dwg D2750.

3-Open float holes to .500" (4 per Side)

4-Chamfer holes of Detail K, L, ground handling and float holes per dwg D2750 (welding instructions on sheet 9)

5-Deburr and blow out all chips from inside of tube

6-Prepare tube for welding, remove alodine as required.

7-Bond web D2739 in place as per QSI 015

A/R ☐☐☐ Sikaflex-291 batch: M112391 ☐☐☐  
exp. date: 02/20/2010

8- Weld spacers D3490-1, D3490-3 and D2743 as per dwg D2750 &amp; QSI004 (welding instructions on sheet 9)

A/R ☐☐☐ Aluminum Rod batch: M109213

9-Grind welds flush as per Dwg D2750

10-Spot face ground handling holes section (total of 4 places per side) as per dwg D2750

BE 09/09/17  
DP 9-9-28  
PD 09.09.29  
DP 9-9-28

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Reference:

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Run Start

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run HoursDraw  
NumberDraw  
Rev.Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

11-Deburr holes

DP 9-9-28

170



QC

Quality Control

QC10- Inspect visual per QSI004- ground welds

0.00

2) 809/01/30

Memo

0.00

(H)

φ

180



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

2) 809/01/30

Memo

0.00

(H)

φ

190



HandFinish

Hand Finishing

Pressure Wash per QSI005 4.3

0.00

2) 809/10/01

Memo

0.00

(H)

φ

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QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run HoursDraw  
NumberDraw  
Rev.Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

200



Powdercoat

Powder Coating

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00

Memo

START TIME: 4:15AM  
OVEN TEMPERATURE: 320°F  
FINISH TIME: 9:45AM

0.00 09/10/09

XL

Ø

210



QC

Quality Control

QC3- Inspect Part Finish

0.00

Memo

Inspect for foreign object per QSI 024

0.00 BK 09-10-5

D.

220



HandFinish

Hand Finishing

HandFinishing

0.00

Memo

Install inserts as per dwg D2750

0.00 MO 09/10/05

XL

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Run Start

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run HoursDraw  
NumberDraw  
Rev.Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

230



HandFinish

Hand Finishing

HandFinishing

Memo

1-Inspect for Foreign Objects

2-Spray inside of tube with "LPS-3"  
batch: \_\_\_\_\_3-Install blade fitting D3488-042, wearshoes and ground handling hardware as  
per dwg D2750  
SIKA FLEX 241  
BATCH: M112391  
EXP DATE: 10/204-assemble o-ring to plug as per dwg D3492 and apply o-ring lube  
A/R 55-o-ring lube batch: M1012235-Coat all exposed fasteners with "LPS Procyon"  
batch: M104251

240



QC

Quality Control

QC5- Inspect part completeness to step on W/O

Memo

0.00

0.00

258 09/10/09


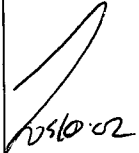

MD 09/10/05



P75





W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	
	230	See WCR below to include the Finish x-bolt hole size on the work instruction.  perm change		09/10/07		 09/10/07	 09/10/07	

Part No: D350-636-012 PAR #: \_\_\_\_\_ Fault Category: Skid tubes NCR: Yes ~~No~~ DQA: Date: 05-10-14  
 Resolution: re-work Disposition: re-work QA: N/C Closed: Date: 05-10-14

NCR: <u>51915</u>		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
9/10/2	Found at step 230.	Found during Assembly that the holes at section AS-AS are too small (0.375"). welder used the wrong drill bit.		- Drill out x-bolt spacer to .404" (1/4 Drill) + deburr.	PD 09/10/07	 09/10/07		 09/10/07
		He wasn't seen at inspection also experienced at welding (didn't know) ASB Day. Doesn't give		- Touch up with Alodine AS Required		 09/10/07		 09/10/07
		inside hole Dim. RC: Human error		- Touch up with imron as per ASI 004 - Include Finish hole sizes on W/O instruction	UMD 09/10/07	 09/10/07		 09/10/07

NOTE: Date & initial all entries

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Item ID: D350-636-012

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Setup Start



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Item Name: Skidtube RH

Start Date: 9/10/2009 Start Qty: 1.00



Cust Item ID:

Required Date: 9/18/2009 Req'd Qty: 1.00

Customer:

Reference:

Run Start



Stop



Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	----------------	--------------	--------------	---------------	---------------	------------------	----------------

250

Pick Kit

0.00



Packaging

Memo

0.00

MO 09/10/07

21

Packaging

260

QC4- 100% Inspect kits for completeness

0.00



QC

Memo

0.00

27 Sep 10/07

②

φ

Quality Control

270

Packaging

0.00



Packaging

Memo

0.00

Package as per PPP D350-636-012

Mr. G

Per/12/07

**Work Order ID 51915**

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Item ID: D350-636-012

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Setup Start



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Stop



Item Name: Skidtube RH

Start Date: 9/10/2009 Start Qty: 1.00



Cust Item ID:

Required Date: 9/18/2009 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run HoursDraw  
NumberDraw  
Rev.Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

280

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

09/10/08 *[Signature]*09-10-08 *[Signature]*

# Picklist Print

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Page 1  
17

Work Order ID: 51915

Parent Item: D350-636-012RevF

Parent Item Name: Skidtube RH

Comments:

Start Date: 9/10/2009

Required Date: 9/18/2009

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
ALS4-1032-225		Purchased	No			220	Each	8,753.000	38.0000			
Insert												

Warehouse                      Loc Qty                      Loc Code  
Location

Main Warehouse

ST                                      8753

107441                                  16

110768                                  8737

AN3C5A                                  Purchased                      No

230                      Each                      642.0000                      34.0000



Bolt

Warehouse                      Loc Qty                      Loc Code  
Location

Main Warehouse

ST                                      642

111424                                  8

111707                                  334

112314                                  200

112489                                  100

AN3C6A                                  Purchased                      No

230                      Each                      1,048.000                      4.0000



BOLT

Warehouse                      Loc Qty                      Loc Code  
Location

Main Warehouse

ST                                      1048

110372                                  72

111982                                  976

X38 mo 09/10/05

X34 mo 09/10/05

X4 mo 09/10/05

# Picklist Print

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Work Order ID: 51915



Parent Item: D350-636-012RevF



Parent Item Name: Skidtube RH

Start Date: 9/10/2009

Required Date: 9/18/2009

Comments:

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
AN6C44A 		Purchased	No			230	Each	172.0000	4.0000			
BOLT												

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		
OFFSHORE		
FG	2	
103964	2	
Main Warehouse		
ST	170	
110105	4	
110155	14	
110665	1	
110865	51	
111605	50	
111649	50	

14 MO 09/10/05

AN8C35A Purchased

No

230

Each

167.0000

1.0000



BOLT

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		
Main Warehouse		
ST	167	
102180	1	
106896	1	
110105	65	
110847	100	

11 MO 09/10/05

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Work Order ID: 51915

Parent Item: D350-636-012RevF

Parent Item Name: Skidtube RH


Comments:

Start Date: 9/10/2009

Required Date: 9/18/2009

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
AN960C10L  washer		Purchased	No			230	Each	7,340.000	38.0000			

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		
OFFSHORE		
FG	100	
103585	100	
Main Warehouse		
FP	-44	
112116	-44	
Main Warehouse		
ST	7284	
112116	2284	
12612	5000	

AN960C816L

Purchased

No

230

Each

330.0000

1.0000



WASHER

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		
Main Warehouse		
ST	330	
104093	2	
107520	4	
110139	29	
10372	36	
110584	100	
111424	159	

X38 mo 09/10/05

X1 mo 09/10/05

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Parent Item: D350-636-012RevF

Parent Item Name: Skidtube RH


Comments:

Start Date: 9/10/2009

Required Date: 9/18/2009

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D2745RevB 		Manufactured	No			230	Each	272.0000	8.0000			
Bushing												

Warehouse Loc Qty Loc Code

Location

Main Warehouse

ST	272
34817	2
36230	8
37303	1
39587	2
40726	2
41114	2
42778	19
43754	2
44893	37
45556	69
46695	18
48278	110

X1 MO 09/10/05  
X4 MO 09/10/05  
X3 MO 09/10/05

D3488-042RevB

Manufactured No



Blade Fitting Assembly, RH

230 Each 9.0000 1.0000



Warehouse Loc Qty Loc Code

Location

Main Warehouse

ST	9
29043	1
44531	8

X1 MO 09/10/05

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Shop Packet Print

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Start Date: 9/10/2009

Required Date: 9/18/2009

Start Qty: 1.00

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Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D3492-041RevC		Manufactured	No			230	Each	3.0000	8.0000			
												
Plug Assembly												

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

43816

5584

3

3

x8 MO 09/10/05

D3492-043RevC		Manufactured	No			230	Each	0.0000	8.0000			
												
Plug Assembly												
D3535-25RevB		Manufactured	No			230	Each	11.0000	1.0000			
												
Wearshoe												

5642

x8 MO 09/10/05

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

47523

11

11

x1 MO 09/10/05



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Required Date: 9/18/2009

Comments:

Start Qty: 1.00

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Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D3536-25RevA		Manufactured	No			230	Each	21.0000	1.0000			
												
Gasket												

Warehouse Loc Qty Loc Code

Location

Main Warehouse

ST

21

45569

1

47011

2

47526

8

50266

10

D3537-1RevC

Manufactured No

230

Each

45.0000

3.0000



Wearpad

Warehouse Loc Qty Loc Code

Location

Main Warehouse

FP

45

48288

2

50321

43

X1 mo 09/10/05

X3 mo 09/10/05

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Comments:

Start Date: 9/10/2009

Required Date: 9/18/2009

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D3631-1RevA  Washer		Manufactured	No			230	Each	105.0000	8.0000			

Warehouse Loc Qty Loc Code

Location

Main Warehouse

ST

38139

45353

47437

105

6

16

83

230

Each

18.0000

1.0000

X6

MD 09/10/05

X2

D3791-1RevA



Wearplate

Manufactured

No

Warehouse Loc Qty Loc Code

Location

Main Warehouse

ST

47536

50269

18

8

10

X1

MD 09/10/05

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Parent Item Name: Skidtube RH



Start Date: 9/10/2009

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Start Qty: 1.00

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Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D3793-1RevA  Wearshoe		Manufactured	No			230	Each	18.0000	1.0000 			

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

18

40551

1

47537

4

50231

13

D3793-3RevA

Manufactured

No



230

Each

22.0000

1.0000  


Wearshoe

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

22

47720

11

50216

11

X1 mo 09/10/05

X1 mo 09/10/05

# Picklist Print

Wednesday, September 09, 2009 11:12:06 AM

Work Order ID: 51915



Parent Item: D350-636-012RevF



Parent Item Name: Skidtube RH

Start Date: 9/10/2009

Required Date: 9/18/2009

Comments:

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D3794-1RevA		Manufactured	No			230	Each	33.0000	1.0000			



Gasket

Warehouse Loc Qty Loc Code

Location

Main Warehouse

ST 33

46530 1

47212 2

47721 4

51668 26

D3794-3RevA

Manufactured No

230

Each

27.0000

1.0000



Gasket

Warehouse Loc Qty Loc Code

Location

Main Warehouse

ST 27

46531 2

47440 2

47722 11

50240 12

XI mo 09/10/05

XI mo 09/10/05

# Picklist Print

Page 10

Wednesday, September 09, 2009 11:12:06 AM

Work Order ID: 51915

Parent Item: D350-636-012RevF

Parent Item Name: Skidtube RH


Comments:

Start Date: 9/10/2009

Required Date: 9/18/2009

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
MS21043-6 		Purchased	No			230	Each	1,132.000	4.0000			
NUT												

Warehouse                      Loc Qty                      Loc Code  
Location

Main Warehouse

ST                                      1132

110584                                  34

111424                                  98

112314                                  1000

xy MD 09/10/05

MS21083C8



Purchased

No

230

Each

90.0000

1.0000

NUT

Warehouse                      Loc Qty                      Loc Code  
Location

Main Warehouse

ST                                      90

110584                                  5

111424                                  2

111637                                  21

112243                                  42

112492                                  20

xy MD 09/10/05

Wednesday, September 09, 2009 11:12:06 AM

Shop Packet Print

Page 10

# Picklist Print

Page 11

Wednesday, September 09, 2009 11:12:06 AM

Work Order ID: 51915

Parent Item: D350-636-012RevF

Parent Item Name: Skidtube RH

Comments:

Start Date: 9/10/2009

Required Date: 9/18/2009

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	--------------------------	---------------	----------------	--------

NAS1611-010

Purchased

No

230

Each

345.0000

8.0000



O-RING

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

345

110715

50

110915

295

NAS1611-013

Purchased

No

230

Each

320.0000

8.0000



O-RING

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

320

106513

11

111424

109

111758

200

210

X3 MD 09/10/05

Wednesday, September 09, 2009 11:12:06 AM

Shop Packet Print

Page 11

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
09/10/05		Replaced O-Ring NAS 1611-010 By O-Ring D2594-3 Batch: B51613 x8	MD	09/10/05			5 07/10/06

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

# Picklist Print

Page 12

Wednesday, September 09, 2009 11:12:06 AM

Work Order ID: 51915

Parent Item: D350-636-012RevF

Parent Item Name: Skidtube RH


Start Date: 9/10/2009

Required Date: 9/18/2009

Comments:

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
AN8C21A  BOLT		Purchased	No			260	Each	110.0000	2.0000			

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		
Main Warehouse		
ST	110	
105160	1	
107596	1	
107924	2	
109092	2	
110341	2	
110342	2	
111605	50	
111684	50	

2x 111684 MD 09/10/07

AN960C816L

Purchased

No

260

Each

330.0000

2.0000

WASHER

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		
Main Warehouse		
ST	330	
104093	2	
107520	4	
110139	29	
110372	36	
110584	100	
111424	159	

2x 111424 MD 09/10/07



# Picklist Print

Page 13

Wednesday, September 09, 2009 11:12:06 AM

Work Order ID: 51915

Parent Item: D350-636-012RevF

Parent Item Name: Skidtube RH


Comments:

Start Date: 9/10/2009

Required Date: 9/18/2009

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D2741RevC  Blade, 350 Skidtube		Manufactured	No			260	Each	40.0000	1.0000			

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		
Main Warehouse		
ST	40	
20770	0	
45320	1	
47113	39	

1 X 47113 mo 09/10/07

D3493-1RevA

Manufactured No

260

Each

115.0000

2.0000

Washer

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		
Main Warehouse		
ST	115	
44902	15	
47710	100	

2 X 47710 mo 09/10/07

D3532-1RevA

Manufactured No

260

Each

43.0000

2.0000

Spacer

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		
Main Warehouse		
ST	43	
38161	2	
44904	41	

2 X 44904 mo 09/10/07

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Shop Packet Print

Page 13

# Picklist Print

Page 14

Wednesday, September 09, 2009 11:12:07 AM

Work Order ID: 51915

Parent Item: D350-636-012RevF

Parent Item Name: Skidtube RH


Comments:

Start Date: 9/10/2009

Required Date: 9/18/2009

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
MS21083C8  NUT		Purchased	No			260	Each	90.0000	2.0000			

Warehouse Loc Qty Loc Code

Location

Main Warehouse

ST	90	
110584	5	
111424	2	
111637	21	
112243	42	
112492	20	

2x 112243 mp 09/10/07

NAS1515H3L

Purchased

No

260

Each

350.0000

4.0000

230

WASHER

Warehouse Loc Qty Loc Code

Location

OFFSHORE

FG	40	
102472	40	

Main Warehouse

ST	310	
110450	2	
110806	8	
111819	300	

2x mp 09/10/05

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Shop Packet Print

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# Picklist Print

Wednesday, September 09, 2009 11:12:07 AM

Work Order ID: 51915



Parent Item: D350-636-012RevF



Parent Item Name: Skidtube RH


Start Date: 9/10/2009

Required Date: 9/18/2009

Comments:

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
NAS1515H8L  WASHER		Purchased	No			260	Each	127.0000	2.0000			

Warehouse                      Loc Qty                      Loc Code  
Location

Main Warehouse

ST	127	
107581	34	
108964	1	
111650	92	

D2600-3-BENTRevD1                      Manufactured                      No



Extrusion Bent

D2744RevC                      Manufactured                      No





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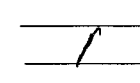
Warehouse                      Loc Qty                      Loc Code  
Location

Main Warehouse

ST	50	
44892	15	
47488	35	

2X 111650 MD 09/10/07

  B506750 BE 09/09/07

 BE 09/09/05

# Picklist Print

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Wednesday, September 09, 2009 11:12:07 AM

Work Order ID: 51915

Parent Item: D350-636-012RevF

Parent Item Name: Skidtube RH

Comments:

Start Date: 9/10/2009

Required Date: 9/18/2009

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D2739RevD		Manufactured	No			160	Each	6.0000	1.0000			
350 I Beam												

Warehouse Loc Qty Loc Code

Location

Main Warehouse

LG

4

50353

4

Main Warehouse

ST

2

47124

1

47681

1

D2743RevB

Manufactured No

160

Each

294.0000

8.0000



Crossbolt Spacer

Warehouse Loc Qty Loc Code

Location

Main Warehouse

LG

50

50281

50

Main Warehouse

ST

244

44891

2

45555

177

48275

65

AWM 9-7-29 - (2)

# Picklist Print

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Wednesday, September 09, 2009 11:12:07 AM

Work Order ID: 51915



Parent Item: D350-636-012RevF



Parent Item Name: Skidtube RH

Start Date: 9/10/2009

Required Date: 9/18/2009

Comments:

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D3490-3RevA		Manufactured	No			160	Each	112.0000	4.0000			
Cross Bolt Spacer												

Warehouse Loc Qty Loc Code

Location

Main Warehouse

ST 112

45560 22

47471 35

48276 55

AWM 9-9-29 (4)

D3490-1RevA Manufactured No



160 Each 165.0000 4.0000



Cross Bolt Spacer

Warehouse Loc Qty Loc Code

Location

Main Warehouse

ST 165

45338 2

47118 4

47657 50

48277 109

48277 AWM 9-9-29 (4)

8

7

6

5

4

3

2

1

QTY -041	QTY -042	QTY -043	QTY -044	PART NUMBER	DESCRIPTION
X				D2750-041	350 SKIDTUBE ASSEMBLY, LH
	X			D2750-042	350 SKIDTUBE ASSEMBLY, RH
		X		D2750-043	350 SKIDTUBE ASSEMBLY, LH
			X	D2750-044	350 SKIDTUBE ASSEMBLY, RH
1	1	1	1	D2739	WEB
8	8	8	8	D2743	SPACER
1	1	1	1	D2744	CAP
8	8	8	8	D2745	BUSHING
1				D2750-1	SKIDTUBE WELDMENT, LH
	1			D2750-2	SKIDTUBE WELDMENT, RH
		1		D2750-3	SKIDTUBE WELDMENT, LH
			1	D2750-4	SKIDTUBE WELDMENT, RH
1		1		D3488-041	BLADE FITTING, LH
	1			D3488-042	BLADE FITTING, RH
4	4	4	4	D3490-1	SPACER
4	4			D3490-3	SPACER
		4	4	D3490-5	SPACER
8	8	8	8	D3492-041	PLUG ASSEMBLY
8	8			D3492-043	PLUG ASSEMBLY
		8	8	D3492-045	PLUG ASSEMBLY
1	1	1	1	D3535-25	WEARSHOE
1	1	1	1	D3536-25	GASKET
3	3	3	3	D3537-1	WEARPAD
8	8	8	8	D3631-1	WASHER
1	1	1	1	D3791-1	WEARPLATE
1	1	1	1	D3793-1	WEARSHOE
1	1	1	1	D3793-3	WEARSHOE
1	1	1	1	D3794-1	GASKET
1	1	1	1	D3794-3	GASKET
38	38	38	38	ALS4-1032-225	INSERT (OR ALS7-1032-225 AKS4-1032-225, AELS-1032-225)
34	34	34	34	AN3C5A	BOLT
4	4	4	4	AN3C6A	BOLT
4	4	4	4	AN6C44A	BOLT
1	1	1	1	AN8C35A	BOLT
38	38	38	38	AN960C10L	WASHER
1	1	1	1	AN960C816L	WASHER
4	4	4	4	MS21043-6	NUT
1	1	1	1	MS21083C8	NUT
4	4	4	4	NAS1515H3L	WASHER

## GENERAL NOTES:

- 1) MATERIAL: MAKE D2750-1/2/3/4 FROM D2600-3 EXTRUSION (INITIAL LENGTH = 120.0).
- 2) FINISH:  
ACID ETCH, ALONDE ASSEMBLY PER DART QSI 005 4.1 PRIOR TO INSTALLING D2739 WEB.  
POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3  
BLACK ANTI-SKID PAINT AS INDICATED TO 1.0 ABOVE SKIDTUBE CENTER-LINE PER DART 005 4.4 (OPTIONAL).
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: D2750-041/-042/-043/-044 = 26.5 LBS
- 8) WELD PER DART QSI 004
- 9) INSTALL ALS4-1032-225 INSERTS AFTER FINISH AS INDICATED. DRILL 'F' SIZE HOLES ( $\phi 0.297$ ) FOR WEARSHOE INSERTS
- 10) FINAL CONFIGURATION SHOULD HAVE THE FOLLOWING MINIMUM MECHANICAL PROPERTIES:  
MINIMUM YIELD TENSILE STRENGTH = 35 KSI  
MINIMUM ULTIMATE TENSILE STRENGTH = 38 KSI
- 11) SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND AFTER INSTALLATION OF INSERTS.  
COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF  
POWDER COATING WITH MEK DEGREASER.
- 12) SPACER AND PLUG INSTALLED SAME AS SECTION AJ-AJ EXCEPT HORIZONTAL
- 13) SPACER AND PLUG INSTALLED SAME AS SECTION AP-AP EXCEPT HORIZONTAL

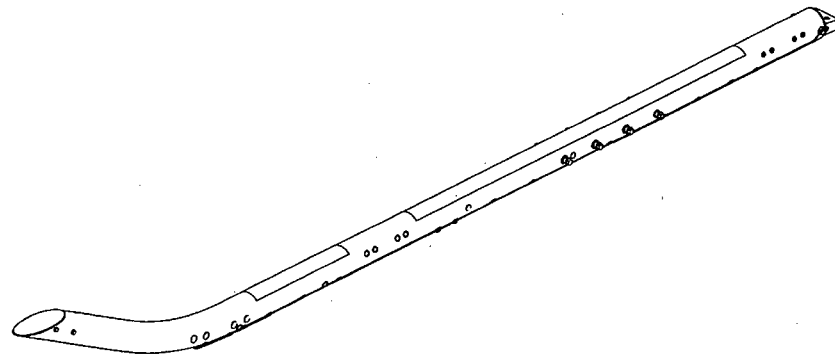
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SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 31915

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66 07 22 14

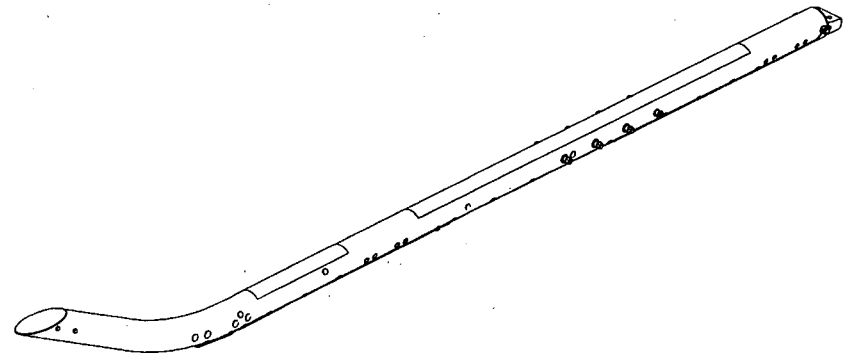
F	INCORPORATE DSI 9413; QTY (3) D3537-1 WAS QTY (5) (ZN C8-1); D3791-1/3 REPLACES D3535-13/35 (ZN C8-1); D3794-1/3 REPLACES D3536-13/35 (ZN B8-1); ADD D3791-1 (ZN C8-1); WEARSHOE HOLES UNDER FWD/AFT SADDLE REMOVED (8 PL). WEARSHOE HARDWARE QTY UPDATED (ZN B8-1); D3488-041/-042 HARDWARE UPDATED (ZN C1-8, 9, 10, 11); ADD NOTE 12 AND 13 (ZN AG-1); REASON: REF. NCR 08-043	PH	08.07.16
E	CHANGE TO STAINLESS STEEL WEARPLATES; ADD RUBBER GASKETS, CHANGE INSERTS; ADD D3631-1; REMOVE QTY (38) NAS1515H3L; REMOVE QTY (10) NAS1515HBL; REMOVE D2741, QTY (2) AN960C816; REMOVE QTY (2) MS21083C8	CB	07.05.17
D	ADD HOLES AND SPACERS FOR APICAL FLOATS; INCORPORATE DEO 9133/9157	PH	06.01.05
C	ADD D2750-3/D2750-4; INCORPORATE D2738 AND D2740	CP	98.11.18
B	CHANGE MS24694-S293 TO AN8-16A	CP	98.09.01
A	NEW ISSUE	DS	98.04.16
REV	DESCRIPTION	BY	DATE
DESIGN			
DRAWN			
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	08.07.16		

DART AEROSPACE USA, INC.	
PORT HADLOCK, WA	
DRAWING NO. D2750	REV. F SHEET 1 OF 11
TITLE 350 SKIDTUBE ASSEMBLY	SCALE NTS
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W/031915



D2750-041 350 SKIDTUBE ASSEMBLY, LH

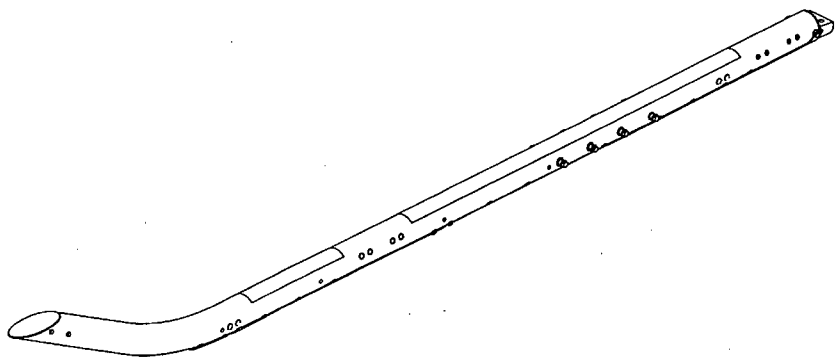


D2750-042 350 SKIDTUBE ASSEMBLY, RH

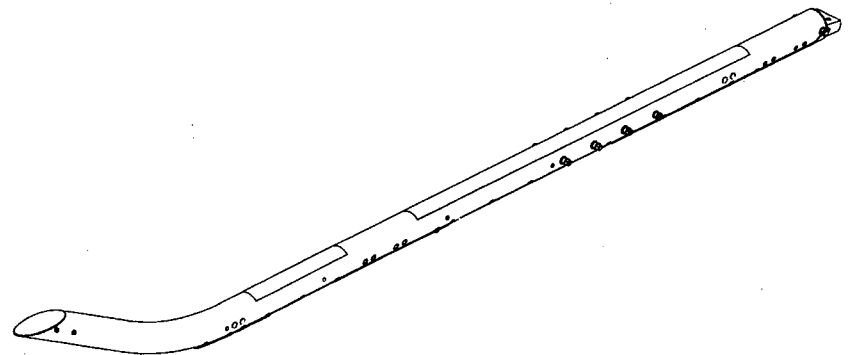
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08-09-22/11

DESIGN	PC	<b>DART AEROSPACE USA, INC.</b>	
DRAWN	AA	PORT HADLOCK, WA	
CHECKED	A	DRAWING NO. <b>D2750</b>	REV. F
MFG. APPR.	MA	SHEET 2 OF 11	
APPROVED	MA	TITLE	SCALE
DE APPR.	MA	<b>350 SKIDTUBE ASSEMBLY</b>	NTS
DATE	08.07.16	<small>COPYRIGHT © 1998 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

W/O 51915



D2750-043 350 SKIDTUBE ASSEMBLY, LH



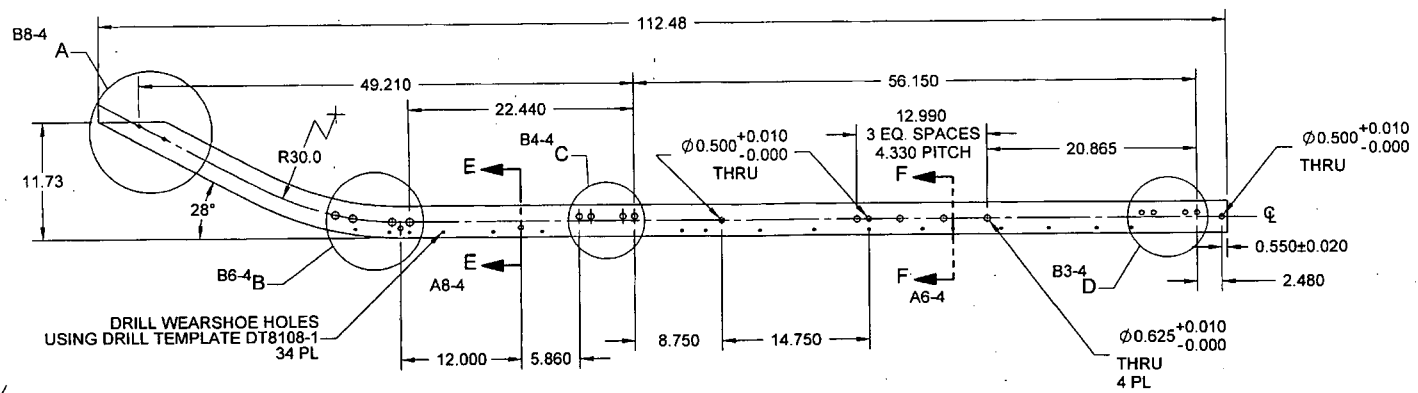
D2750-044 350 SKIDTUBE ASSEMBLY, RH

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68-09-22-1-17

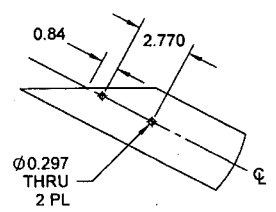
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DRAWN	PD	PORT HADLOCK, WA	
CHECKED	NA	DRAWING NO.	REV. F
MFG. APPR.	NA	D2750	SHEET 3 OF 11
APPROVED	NA	TITLE	SCALE
DE APPR.	NA	350 SKIDTUBE ASSEMBLY	NTS
DATE	08.07.16	COPYRIGHT © 1998 BY DART AEROSPACE USA, INC. <small>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	



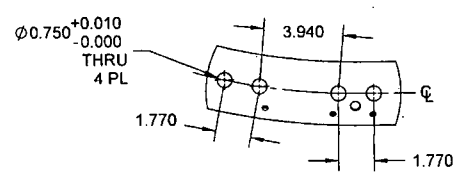
4/051915



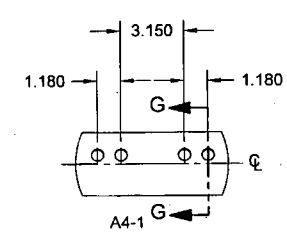
**D2750-1 LH SKIDTUBE**



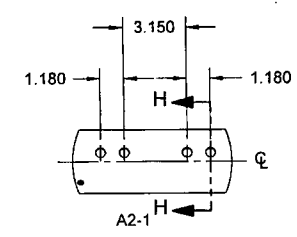
**DETAIL A**  
SCALE 2X



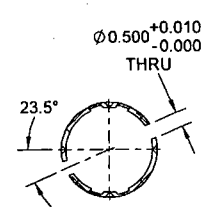
**DETAIL B**  
SCALE 2X



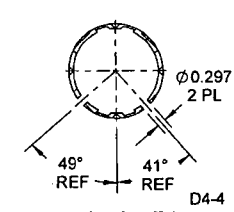
**DETAIL C**  
SCALE 2X



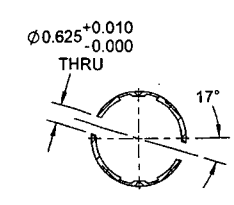
**DETAIL D**  
SCALE 2X



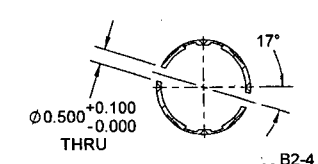
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SCALE 3X, 2 PL



**SECTION F-F**  
SCALE 3X, 17 PL



**SECTION G-G**  
SCALE 3X, 4 PL

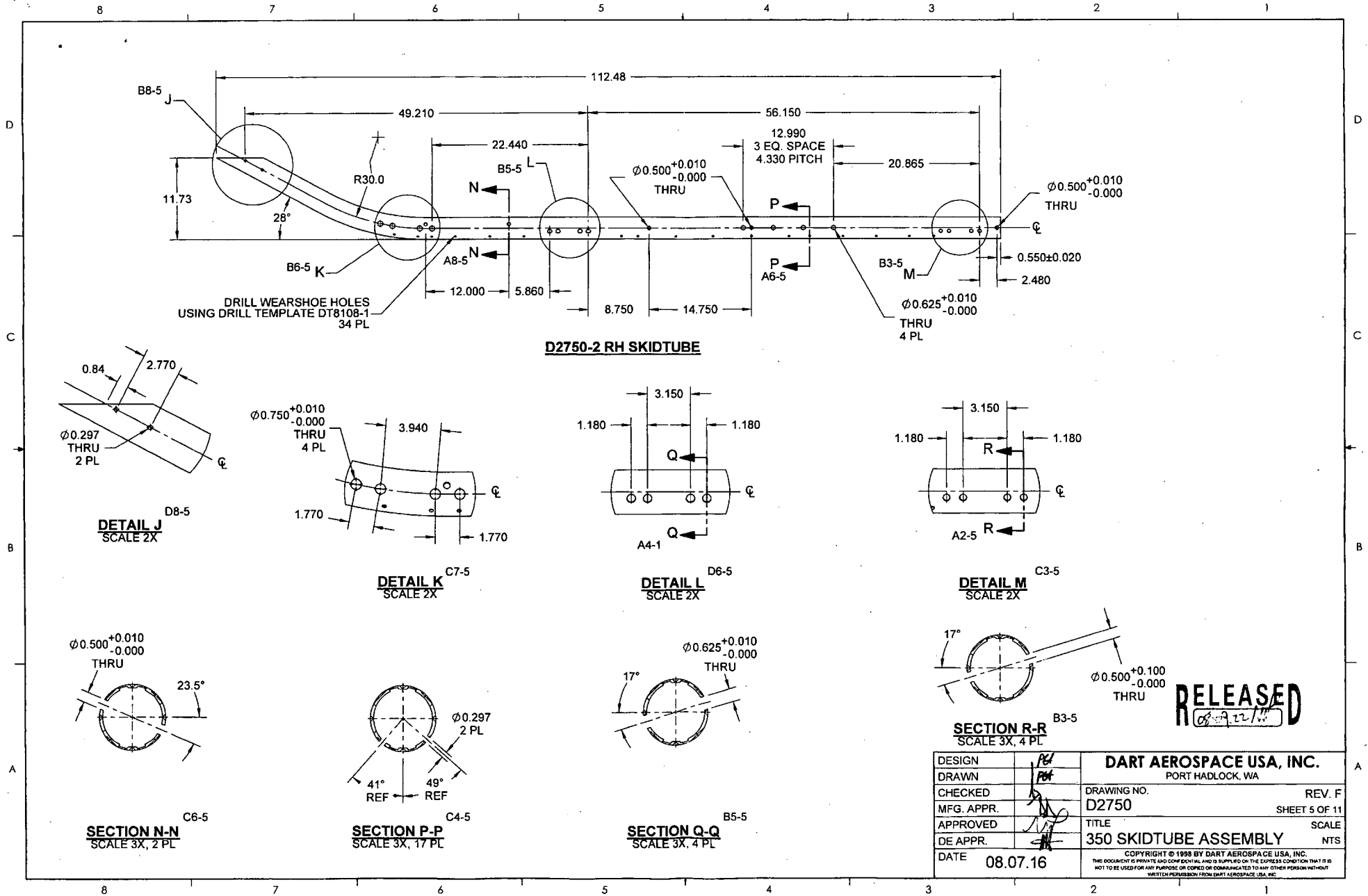


**SECTION H-H**  
SCALE 3X, 4 PL

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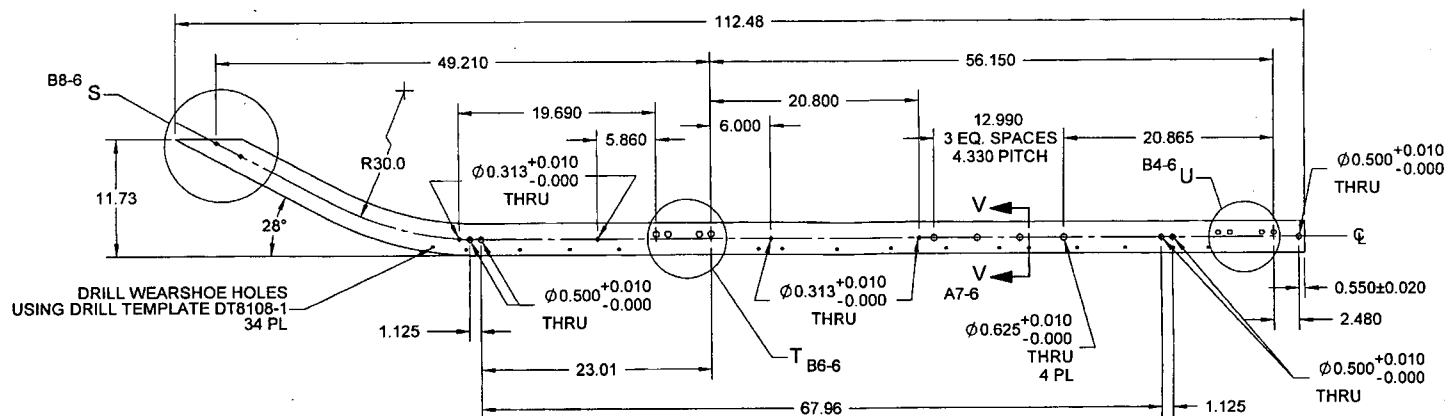
DESIGN	PH	<b>DART AEROSPACE USA, INC.</b>	
DRAWN	PH	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. F
MFG. APPR.		D2750	SHEET 4 OF 11
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DE APPR.		350 SKIDTUBE ASSEMBLY	NTS
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51915

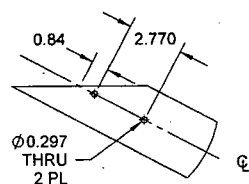


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CHECKED		DRAWING NO.	REV. F
MFG. APPR.		D2750	SHEET 5 OF 11
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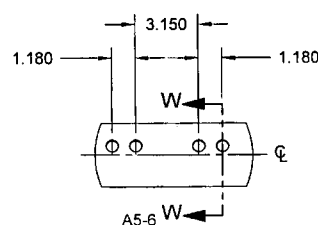
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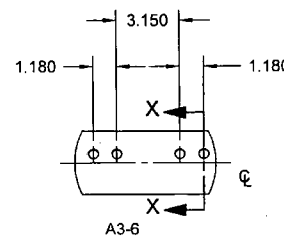
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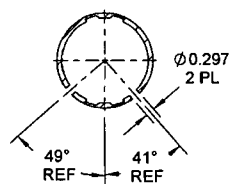
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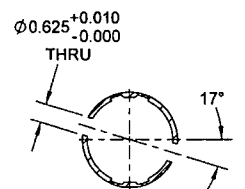
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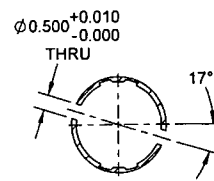
**DETAIL U**  
SCALE 2X



**SECTION V-V**  
SCALE 3X, 17 PL



**SECTION W-W**  
SCALE 3X, 4 PL

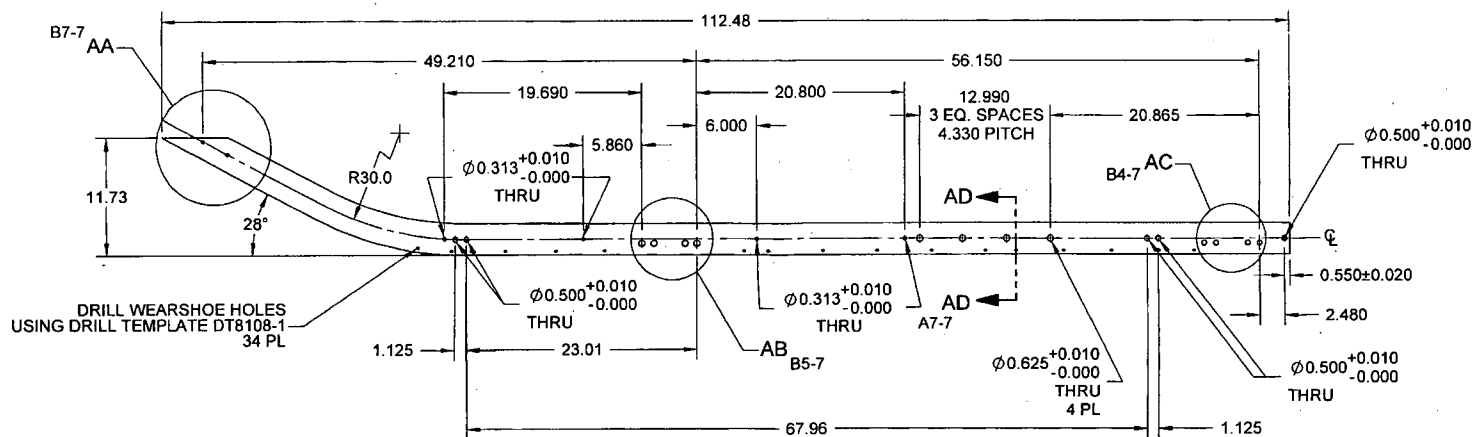


**SECTION X-X**  
SCALE 3X, 4 PL

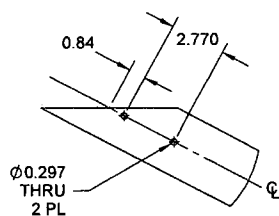
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MFG. APPR.			SHEET 6 OF 11
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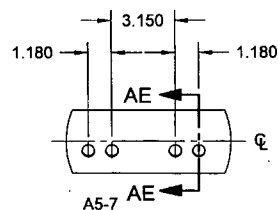
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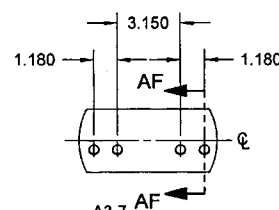
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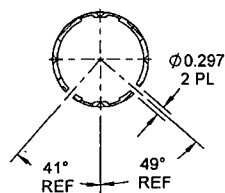
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SCALE 2X



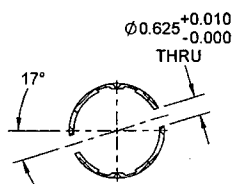
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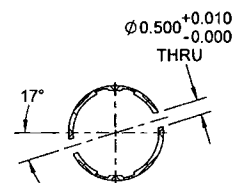
**DETAIL AC**  
SCALE 2X



**SECTION AD-AD**  
SCALE 3X, 17 PL



**SECTION AE-AE**  
SCALE 3X, 4 PL

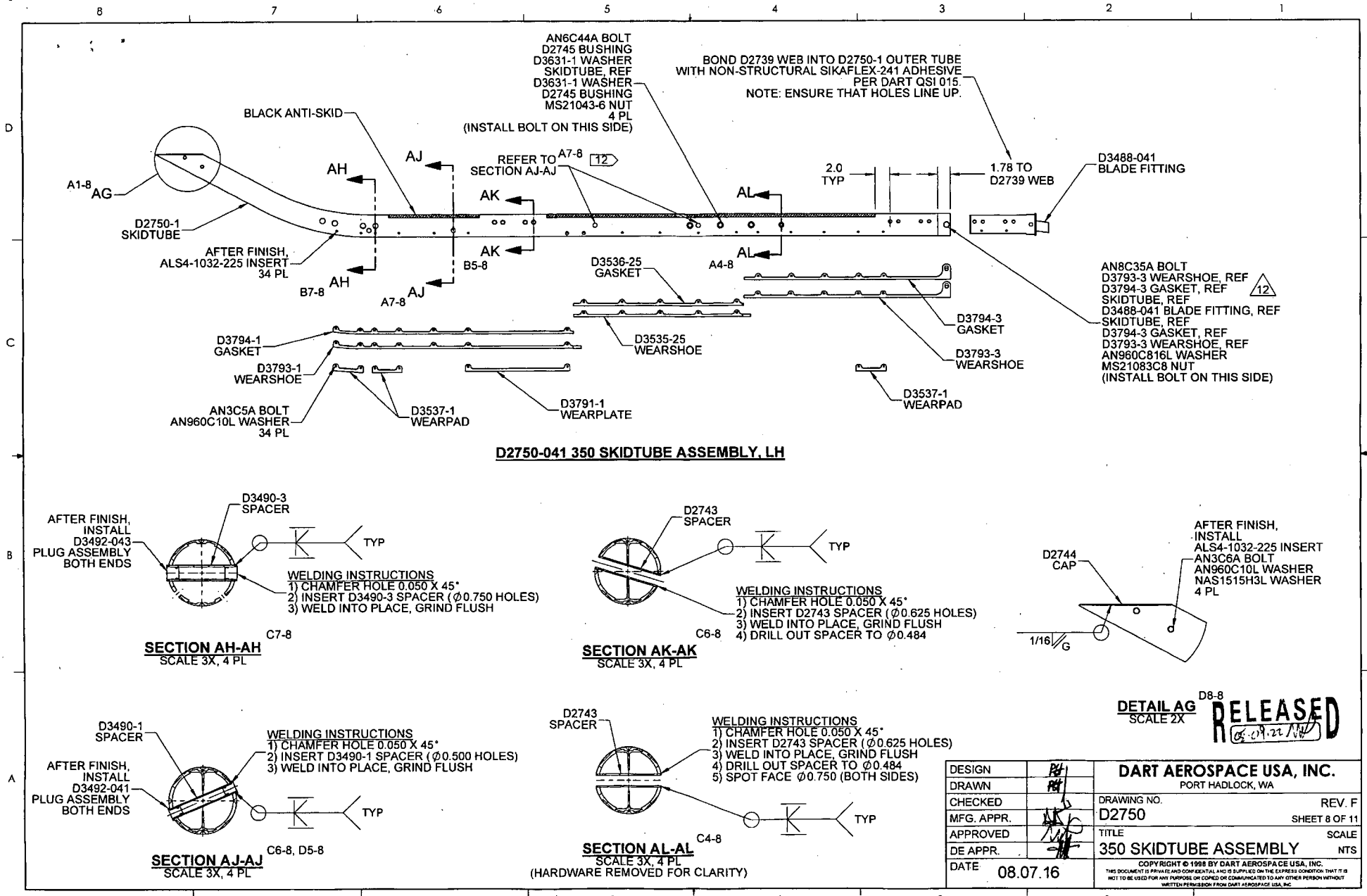


**SECTION AF-AF**  
SCALE 3X, 4 PL

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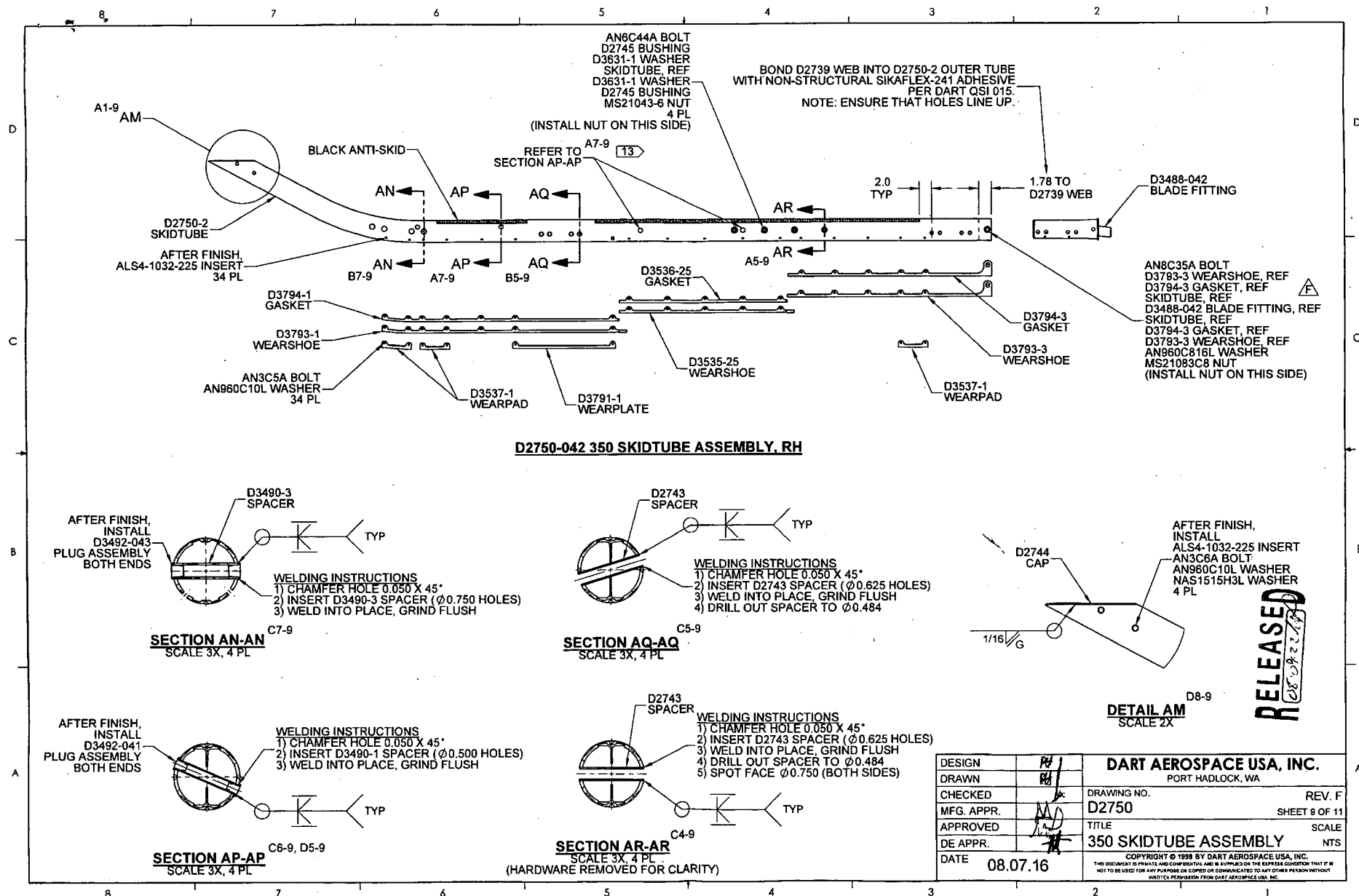
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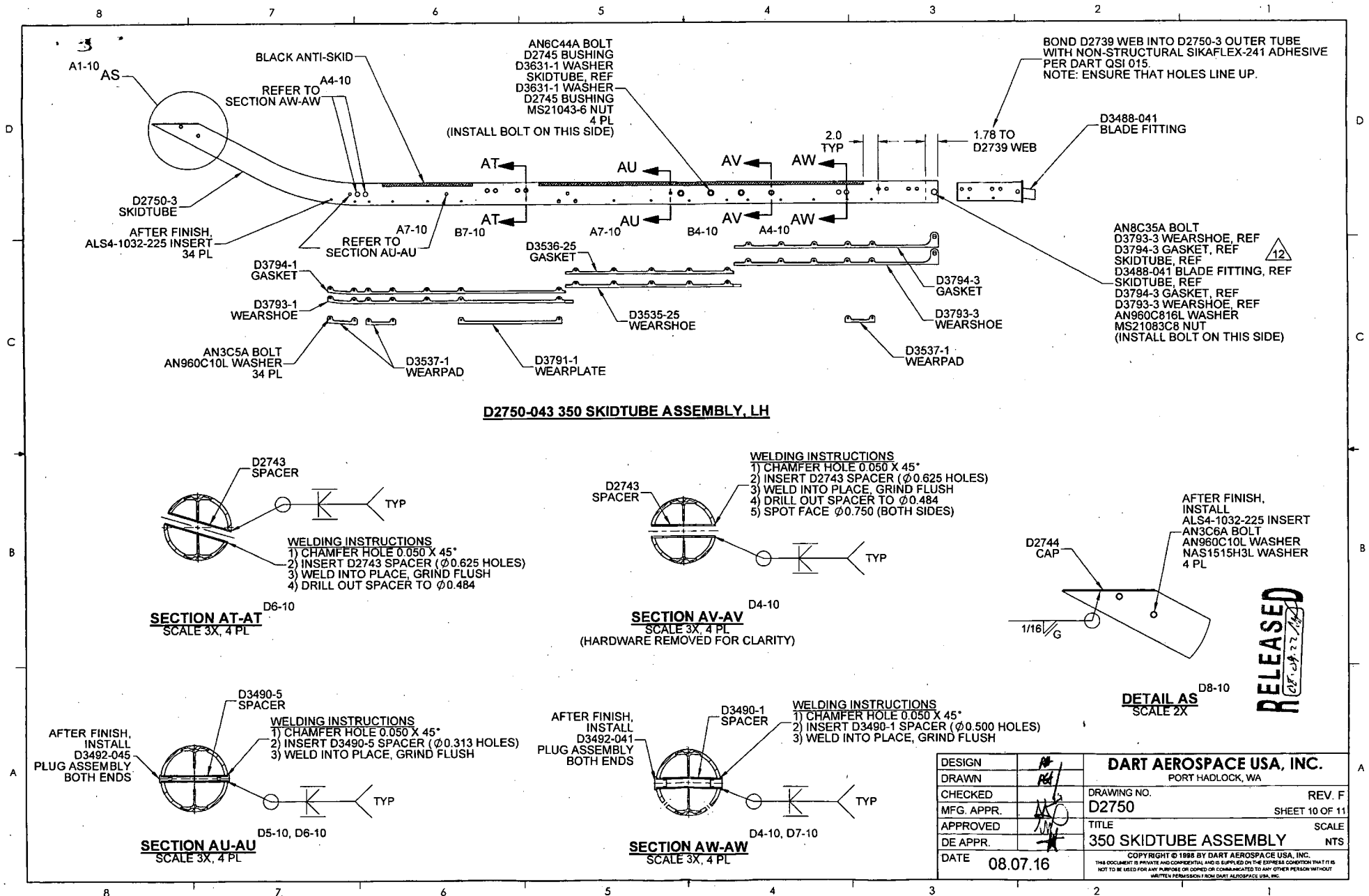
DETAIL AG D8-8  
SCALE 2X  
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DESIGN	D2750	DART AEROSPACE USA, INC.	
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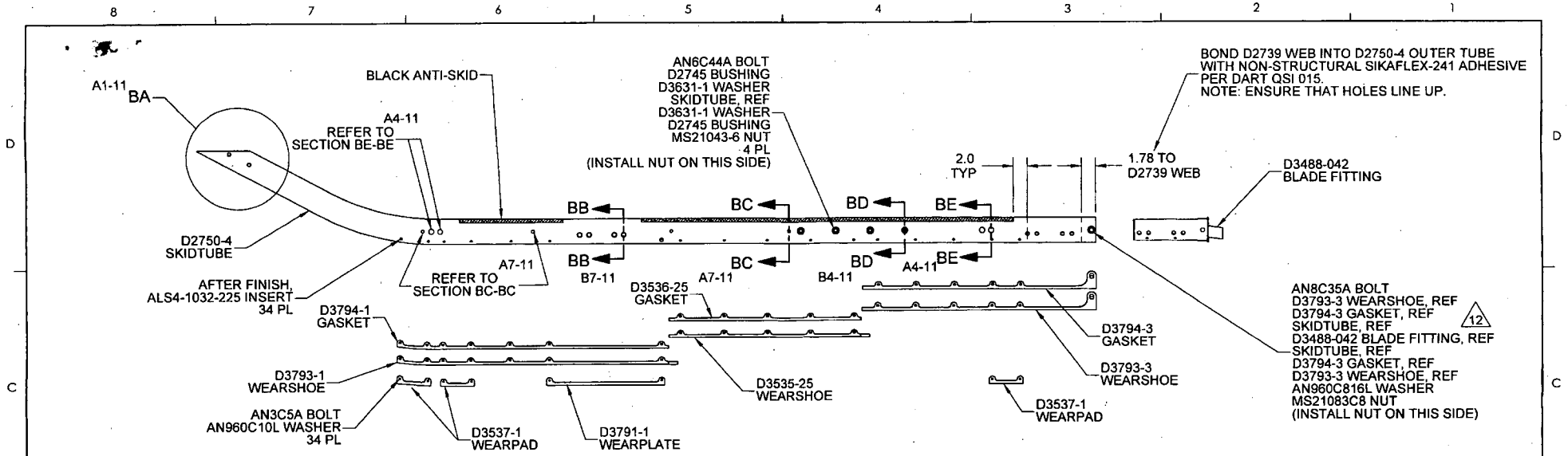


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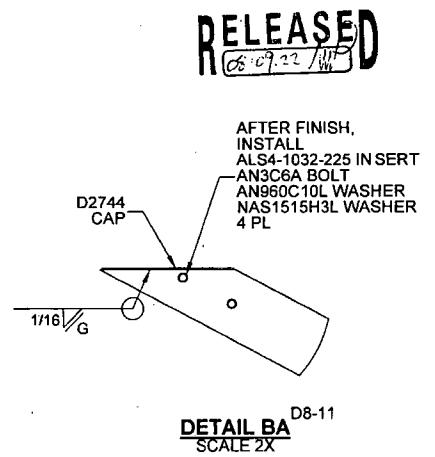
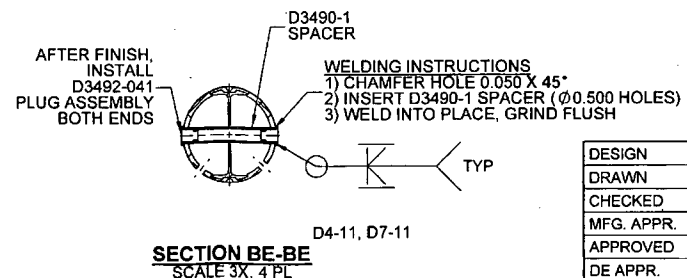
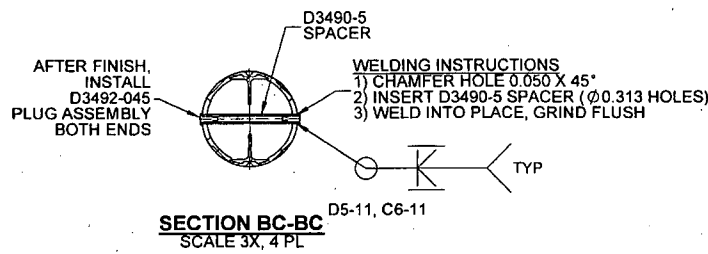
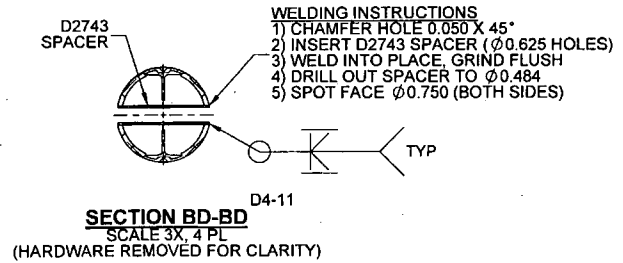
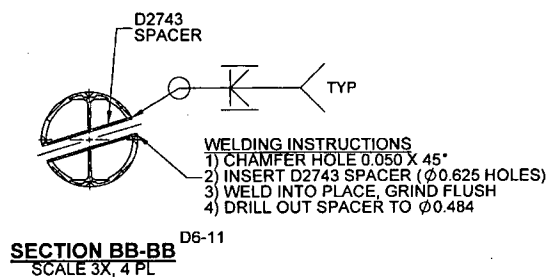


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**D2750-044 350 SKIDTUBE ASSEMBLY, RH**



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NO. 209

AWS D17.1.2001  
QUALIFICATION TEST RECORD

Name: A. R. Avel  
Job number: 51803  
Part number: A350-636-011  
Description: 350 Skid tube  
Welding Process: Tig[☒] Mig[ ]  
Base material: Alum  
Current: AC[☒] DC[ ]

TEST REQUIREMENTS AND RESULTS

Visual: pass[☒] fail[ ]  
Penetration: pass[☒] fail[ ]

UNACCEPTABLE

Cracks: pass[☒] fail[ ]  
Undercut: pass[☒] fail[ ]  
Pin holes: pass[☒] fail[ ]  
Overlap (cold lap): pass[☒] fail[ ]  
Porosity (surface): pass[☒] fail[ ]  
Coloration: pass[☒] fail[ ]

Qualifier Daniel Avel Date of Test Coupon 09/09/28  
Welder A. R. Avel Date of Test Coupon 09.09.28

The above named individual is qualified in accordance with AWS D17.1.2001 to weld